AMENDMENTS TO THE CLAIMS

Please amend the claims as shown in the claim listing below, which replaces all previous claim listings.

1-33. (Cancelled)

34. (Previously Presented) An *in vitro* assay method for detecting cancer cell growth stimulation by a substance of interest, the method comprising:

maintaining a predetermined population of steroid hormone-responsive mucosal epithelial cancer cells in a steroid hormone-free nutrient medium comprising a basal nutrient fluid devoid of unbound Fe (III) and comprising calcium ions and an amount of at least one immunoglobulin chosen from the group consisting of non-monomeric plasma IgA and polymeric IgM sufficient to inhibit cell growth in the absence of an inhibition-reversing amount of a steroid hormone, said cells also being steroid hormone dependent for proliferation *in vivo* when implanted into a suitable host;

adding said substance of interest to said cells and nutrient medium to yield a test mixture;

incubating said test mixture for a predetermined period of time under cell growth promoting conditions; and

determining the cell population in said test mixture after said predetermined period of time, a measurable increase in said cell population indicating a cancer cell growth stimulating effect by said substance of interest.

35. (Original) The assay method of claim 34 comprising maintaining serum-free assay conditions.

36. (Previously presented) The assay method of claim 34 wherein the nutrient medium further includes steroid-hormone depleted serum.

37. (Previously Presented) The assay method of claim 34 wherein the nutrient medium further includes serum that has not been subjected to heat inactivation.

38. (Previously presented) The assay method of claim 34 wherein said immunoglobulin is polymeric IgM.

39-40. (Cancelled)

41. (Previously presented) The assay method of claim 34 wherein said substance of interest is suspected of containing proteolytic activity, in which said immunoglobulin resists protease degradation.

42. (Previously presented) The assay method of claim 34 wherein said immunoglobulin is non-monomeric plasma IgA.

43. (Previously Presented) The assay method of claim 34 further comprising:

maintaining a second predetermined population of said steroid hormone-responsive mucosal epithelial cancer cells in a steroid hormone-free nutrient medium, said cells also being steroid hormone responsive for proliferation *in vivo* when implanted into a suitable host;

adding said substance of interest to said cells and nutrient medium, to yield a control mixture;

incubating said control mixture for a predetermined period of time under cell growth promoting conditions;

determining the cell population in said control mixture after said predetermined period of time, a measurable increase in said cell population indicating a control level cell growth stimulating effect by said substance of interest.

44-94. (Cancelled)

95. (Previously Presented) The method of claim 34 comprising:

maintaining a predetermined population of estrogen responsive mucosal epithelial cancer cells in a steroid hormone-free nutrient medium comprising an amount of at least one immunoglobulin chosen from the group consisting of non-monomeric plasma IgA and polymeric IgM sufficient to inhibit cancer growth in the absence of an inhibition-reversing amount of

estrogen, said cell also being estrogen responsive for proliferation *in vivo* when implanted into a suitable host;

adding a defined amount of said substance of interest to said cells and medium, to yield a test culture;

incubating said test culture for a predetermined period of time under cell growth promoting conditions; and

determining the cell population in said test culture after said predetermined period of time, a measurable increase in said cell population indicating cell growth stimulating effect by said substance of interest, whereby an estrogenic substance is detected.

96. (Cancelled)

97. (Original) The method of claim 95 further comprising testing said substance of interest for cytotoxic effects on said cells.

98.-109. (Cancelled)

110. (Previously presented) The method of claim 34 wherein said nutrient medium comprises a Fe (III) chelating agent.

111. (Previously presented) The method of claim 34 wherein said nutrient medium comprises a cell attachment promoting protein.

112. (Previously presented) The method of claim 34 wherein said nutrient medium contains about 1-50 mM calcium ion.

113. (Previously presented) The method of claim 34 wherein said basal nutrient fluid comprises D-MEM/F-12.

114. (Previously presented) The method of claim 34 wherein said nutrient medium comprises 100 ng/mL to 10 μg/mL insulin, 0.3 - 10 nM triiodothyronine, 2 - 50 μg/mL diferric transferrin,

5 - 100 μM ethanolamine, 0.2 - 5.0 mg/mL bovine serum albumin (BSA), 5 - 20 ng/mL selenium, 2 - 10 μM deferoxamine, and, optionally, at least one component chosen from the group consisting of 1 - 50 ng/mL EGF, 0.2 - 20 ng/mL aFGF, 5 - 50 μM phosphoethanolamine, 50 - 500 μg/mL linoleic acid-BSA, 1 - 50 μg/mL reduced glutathione, 0.5 - 2.0 mM glutamine, 1 - 10 μg/mL heparin, and 20 - 50 μg human fibronectin.

115-122. (Cancelled)

123. (Previously Presented) The assay method of claim 34 wherein the steroid hormone-responsive mucosal epithelial cancer cells are selected from the group consisting of GH4C1, GH1 and GH3 rat pituitary cells, ZR-75-1 human breast cancer cells, MCF-7A human breast cancer cells, T47D human breast cancer cells, LNCaP human prostate cancer cells, and HT-29 human colon cancer cells.

124. (Previously Presented) The assay method of claim 34 wherein the steroid hormone is selected from the group consisting of Estrogens, Androgens, Progesterone, and Glucocorticoids.

125. (Previously Presented) The assay method of claim 124 wherein the steroid hormone-responsive mucosal epithelial cancer cells are selected from the group consisting of GH4C1, GH1 and GH3 rat pituitary cells, ZR-75-1 human breast cancer cells, MCF-7A human breast cancer cells, T47D human breast cancer cells, LNCaP human prostate cancer cells, and HT-29 human colon cancer cells.

126. (Previously Presented) The assay method of claim 36 wherein the steroid hormone-responsive mucosal epithelial cancer cells are selected from the group consisting of GH4C1, GH1 and GH3 rat pituitary cells, ZR-75-1 human breast cancer cells, MCF-7A human breast cancer cells, T47D human breast cancer cells, LNCaP human prostate cancer cells, and HT-29 human colon cancer cells..

127. (Previously Presented) The assay method of claim 36 wherein the steroid hormone is selected from the group consisting of Estrogens, Androgens, Progesterone, and Glucocorticoids.

128. (Previously Presented) The assay method of claim 127 wherein the steroid hormone-responsive mucosal epithelial cancer cells are selected from the group consisting of GH4C1, GH1 and GH3 rat pituitary cells, ZR-75-1 human breast cancer cells, MCF-7A human breast cancer cells, T47D human breast cancer cells, LNCaP human prostate cancer cells, and HT-29 human colon cancer cells..

129. (Previously Presented) An *in vitro* assay method for detecting steroid hormone cancer cell growth stimulation by a substance of interest, the method comprising:

maintaining a predetermined population of steroid hormone-responsive mucosal epithelial cancer cells in a steroid hormone-free nutrient medium comprising a basal nutrient fluid devoid of unbound Fe (III) and comprising calcium ions and an amount of at least one immunoglobulin chosen from the group consisting of non-monomeric plasma IgA and polymeric IgM sufficient to inhibit cell growth in the absence of an inhibition-reversing amount of a steroid hormone, said cells also being steroid hormone dependent for proliferation *in vivo* when implanted into a suitable host;

adding said substance of interest to said cells and medium to yield a test mixture;

incubating said test mixture for a predetermined period of time under cell growth promoting conditions; and

determining the cell population in said test mixture after said predetermined period of time, wherein a measurable increase in said cell population indicates a steroid hormone dependent cancer cell growth stimulating effect by said substance of interest.

130. (Previously presented) The method of claim 129 wherein the non-monomeric plasma IgA is dimeric/polymeric IgA.

131. (Previously Presented) An *in vitro* assay method for detecting estrogenic cancer cell growth stimulation by a substance of interest, the method comprising:

maintaining a predetermined population of estrogen-responsive mucosal epithelial cancer cells in a steroid hormone-free nutrient medium comprising a basal nutrient fluid devoid of unbound Fe (III) and comprising calcium ions and an amount of at least one immunoglobulin

chosen from the group consisting of non-monomeric plasma IgA and polymeric IgM sufficient to inhibit cell growth in the absence of an inhibition-reversing amount of an estrogen, said cells also being estrogen dependent for proliferation *in vivo* when implanted into a suitable host;

adding said substance of interest to said cells and medium to yield a test mixture;

incubating said test mixture for a predetermined period of time under cell growth promoting conditions; and

determining the cell population in said test mixture after said predetermined period of time, wherein a measurable increase in said cell population indicates an estrogenic dependent cancer cell growth stimulating effect by said substance of interest.

132. (Previously presented) The method of claim 131 wherein the non-monomeric plasma IgA is dimeric/polymeric IgA.

133.-135. (Cancelled)

136. (Previously presented) The method of claim 42 wherein the non-monomeric plasma IgA is dimeric/polymeric IgA.

137.-146. (Cancelled)